- **developing program requirements and operational procedures;**
- **developing questionnaires or interviewing instruments for data collection;**
- **writing specifications and computer programs to edit, weight, and tabulate the collected survey data; and**
- **processing and disseminating the survey data.**

Once the final data files are prepared and verified, data are released to the survey sponsor and the public. The Demographic Survey Division is developing the Federal Electronic Research and Review Extraction Tool (FERRET) to provide Internet access to demographic survey data.

Housing and Household Economic Statistics Division

In concert with others at the U.S. Census Bureau, the Housing and Household Economic Statistics Division compiles, analyzes, and publishes timely and accurate data on the physical, social, and financial characteristics of: the nation's housing, use and occupancy; and on the income, labor force, and other socio-economic characteristics of the nation's households, families, and individuals. It conducts quality assurance, analyzes data, and produces reports for domestic and international surveys such as:

- **the Survey of Income and Program Participation;**
- **the March Current Population Survey;**
- **the Housing Vacancy Survey; and**
- **the American Housing Survey.**

Among the key economic and social indicators we publish are homeownership, poverty, non-coverage by health insurance, housing vacancies, and median income. Our division is also a key participant in the Decennial Census of population and housing.

Population Division

Population Division's Domestic area formulates and develops overall plans and programs for collecting, processing, and disseminating national and international statistical data from special and current surveys and censuses; prepares estimates and projections of the population; plans and develops systems; prepares computer programs for processing population data; conducts special studies; and publishes analytical reports and monographs.

Population Division's International area conducts international demographic and socioeconomic studies and strengthens statistical development around the world through technical assistance and training. Their work is commissioned and funded by federal agencies, international organizations, non-governmental organizations, private business, and other governments. All over the world, the Population Division helps collect, process, and analyze statistics, and promote the dissemination and use of this information.

We describe our major programs in the following pages.

Demographic Reimbursable Programs

The Demographic program area collects, processes, analyzes, and disseminates demographic and socioeconomic information for other government agencies and private organizations on a reimbursable basis. Some of their major programs are:

- **American Housing Survey**
  This survey, sponsored by the Department of Housing and Urban Development, provides ongoing data at the federal, state, and local levels for determining housing policy and program development.
- **Consumer Expenditure Surveys**
  This system provides a current and continuous series of data on consumer expenditures and other related characteristics for durable and non-durable items, everything from housing and utilities to food and magazine subscriptions. The Bureau of Labor Statistics sponsors these monthly surveys; data are used in determining the Consumer Price Index, for family expenditure studies, and other analysis. There are two components:
  - **Quarterly Interview Survey:** obtains data on large expenditures; and
  - **Diary Survey:** obtains data on small, everyday purchases.
- **Crime Surveys**
  These surveys are conducted for the Bureau of Justice Statistics (Department of Justice) and include:
  - **National Crime Victimization Survey:** obtains data on crime and its victims; and
  - **National Prisoner Statistics:** an umbrella title for a group of surveys of prisoners and prison populations, these surveys include recurring surveys as well as one-time, special surveys.
- **Schools and Staffing Survey**
  This program, sponsored by the National Center for Education Statistics, collects the information necessary for a complete picture of American elementary and secondary education.
      (continued)

- **Telephone Point of Purchase Survey**
  This quarterly survey provides the names and locations of stores consumers use. With these data, the Bureau of Labor Statistics selects and updates outlets included in their Consumer Price Index pricing surveys.

Other examples include the **American Travel Survey**, the **New York City Housing Vacancy Survey**, the **Long Term Care Survey**, and the **National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.**

Housing Vacancy Survey

The Housing Vacancy Survey provides current information on rental and homeowner vacancy rates, homeownership rates, and characteristics of units available for occupancy. These data are used extensively by public and private sector organizations to evaluate the need for new housing programs and initiatives. In addition, the rental vacancy rate is a component of the index of leading economic indicators that the federal government and other forecasters use to gauge the current economic climate. Data are collected through the Current Population Survey program and released quarterly.

Intercensal Demographic Estimates

This program supports updated Decennial Census statistics, population projections, and survey controls, which are used to administer federal programs and allocate approximately $100 billion in federal funds to state and local jurisdictions. Outputs from this system will be used by other Demographic Directorate programs to estimate age, gender, race, ethnicity, median household income, per capita income, and poverty rates in various geographic levels. Survey estimates are provided on a biennial basis. Input files used include 1980 and 1990

The Demographic program area supports its functions by using three computing environments: Unisys 4200, Dec VAX/VMS mini-computers, and UNIX workstations and servers. Currently, demographic staffs are moving all work off the Unisys platform, and most of the production work off the DEC platform, to a decentralized distributed UNIX environment. The UNIX environment is the major production and analytical processing resource; in the future, all production and analytical work will be processed in the UNIX environment. We have included a full description of the IT systems and subsystems that support Demographic functions in section 2.0.

1.1   Demographic Program Area Products, Services, and Customers

Products and Services

The Demographic program area provides a wide range of data products in various formats, such as microdata files, tabulations, reports, and analysis. Data are available on tape, CD-ROM, and through the Internet.

American Community Survey

The American Community Survey collects detailed socioeconomic data traditionally gathered in the Decennial Census and provides the data throughout the decade.

Census 2000 Content

This service prepares the specifications for editing and the allocation of data collected, reviews data quality, and specifies and publishes data tabulations.

Community Address Updating System

The Community Address Updating System (formerly the Strategy for Post-Censal Rural Master Address File Updates) will be an ongoing field operation to supplement the Master Address File updates conducted by the Geography Division. Field Representatives will target addresses not in the Master Address File, using information about addresses from community governments and from administrative records files available to the U.S. Census Bureau. Field Representatives will use automated listing and mapping instruments to map spot new addresses and add them to the Master Address File. New streets and geographic features found during the listing will be added to the TIGER database.

The system is being tested from 1999 through 2001 and will expand to cover the entire country in 2002. We will use the updated address list for the American Community Survey, which will begin interviewing in all counties starting in 2003.

Current Population Survey

The Current Population Survey provides monthly estimates of employment, unemployment, and other characteristics of the general labor force, of the population as a whole, and of various subgroups of the population. The Bureau of Labor Statistics uses monthly labor force data for the nation to determine the distribution of funds under the Job Training Partnership Act. In addition to the labor force data, annual data on work experience, income, and migration are

- **Russian Subnational Population Projections**
  This is a Department of Defense-sponsored project designed to produce sub-national population projections for some 80 regions in the Russian Federation.

Longitudinal Household-Employer Dynamics Pilot Project

The Longitudinal Household-Employer Dynamics pilot project is a new initiative for the U.S. Census Bureau. Its aim is to produce new, policy-relevant data for decision-makers without any additional reporting burden on businesses or households. The scope of this pilot project is limited so we can fully test the U.S. Census Bureau's capabilities while continuing to guarantee the confidentiality of data respondents. Our primary short-term objective is to provide the basic computing infrastructure necessary to efficiently, securely, and accurately combine millions of pieces of data.

Assuming that the pilot phase of this project proves successful, long-term objectives include institutionalizing this capability, providing better and more comprehensive data that better reflects social and economic interactions between employers and their workers, and pioneering cutting-edge analytical research.

Population Distribution

This program provides dissemination and analytical activities associated with the population estimates and projections program. The system also coordinates requests for information and specialized data to federal and other agencies, and prepares public use files.

Population Estimates and Projections

This program prepares and releases the national and state population monthly projections, develops and implements distribution guidelines for the release of estimates, and prepares a population estimates issues report.

Poverty Measurement

This program examines the issues associated with improving the methodology for producing our nation's official poverty estimates. The current poverty measure, defined over 30 years ago, is badly out of date. For example, it is based on before-tax cash income; thus, it fails to account for benefits received in ways other than cash (such as food stamps and subsidized housing) and also fails to account for the effect of taxes (as well as the Earned Income Tax Credit). This research, which follows a 1995 report by a National Academy of Sciences panel that recommended sweeping changes to our nation's poverty measure, will lead to a new measure that corrects these and many other flaws in the current measure.

Sample Redesign for Current Household Surveys

This program provides research and redesigns the samples for the post-2000 demographic surveys. It includes extending the samples for the Demographic surveys (including the Current Population Survey and the Survey of Income and Program Participation) past 2004; improving the statistical methodologies used to select those samples; and incorporating the results of Census 2000 and updating and improving the automated systems used to deliver and control the samples. Major inputs include the Census 2000 short and long form response files as well as the Master Address File.

Customers

The Demographic program area provides its products and services to a variety of federal government organizations, policy makers, analysts, state and local governments, private organizations, marketers, planners, researchers, international governments and organizations, and the news media. For instance, customers include:

- **the Congress;**
- **the U.S. Bureau of Labor Statistics;**
        (continued)

- **the Department of Housing and Urban Development;**
- **the National Center for Health Statistics;**
- **other federal agencies;**
- **the World Bank;**
- **numerous countries (including Canada, England, Germany, Bahrain, and Russia);**
- **various colleges and universities around the world;**
- **several United Nations agencies; and**
- **private individuals via the Internet and other media.**

1.2 Demographic Program Area IT Objectives

The Demographic program area strives to have an IT environment that will provide the greatest opportunity and flexibility to meet the different demands and changing requirements of our programs. We seek to make maximum and efficient use of our IT resources to meet our objectives by:

- **reducing software development and IT maintenance and support costs;**
- **developing new processing systems that are hardware and operating system independent;**
- **ensuring all production systems and subsystems are Year 2000 (Y2K) compliant;**
- **ensuring all critical processing systems have contingency/backup plans in place;**
- **ensuring all computing systems on the public network are secure from unauthorized access;**
- **providing analysts with enhanced data access and standard tools;**
- **fostering innovation and judiciously applying technology to ensure that it responds to changing customer/program area requirements and is cost-beneficial; and**
- **ensuring technology meshes with existing and future staff competencies.**

programming branches. The other program divisions (Demographic Statistical Methods Division, Housing and Household Economic Statistics Division, and Population Division) are primarily responsible for a few major programs and data analysis activities; they have implemented a few large servers to handle each of their division's total processing requirements.

The UNIX environment has provided significant improvements in the processing environment for the Demographic program area. We now have the resources and flexibility to accomplish our work objectives. The UNIX environment is scalable, robust, and provides significantly increased capacity and throughput.

Demographic Statistical Methods Division: our UNIX environment consists of four Sun servers. A Sun 5000 server, located at Headquarters, provides computing resources for Sample Control and the 2000 Sample Redesign system. The server con-

sists of eight 336 MHz processors, two GB of memory, 470 GB of RAID 5 storage and StorageTek's 9714 DLT Robotic Library for backup. A Sun 6500 server, located in the Bowie Computer Center, provides computing resources for the Master Address File Preparation Edits and American Community Survey sampling subsystems. The Sun 6500 has six 336 MHz processors, three GB of memory, 700 GB of RAID 5 storage and StorageTek's 9710 DLT Robotic Library for backup. Two identical Sun 5000 servers provide computing resources for the American Community Survey production data processing; they consist of multiple processors, one GB of memory, 400 GB of RAID 5 storage and an EMC Enterprise Data Manager DLT Backup.

Figure 1, below, and Figures 2 and 3, on the following page, illustrate the server configuration for the Demographic Statistical Methods Division:

Sample Control

Sample Redesign

Master Address File Preparation

American Community Survey Sampling

Sun 5000 enterprise server

Sun 6500 enterprise server

Sun RSM 2000 RAID storage

Sun RSM 2000 RAID storage

Sun A5000 RAID storage

StorageTek 9710 tape library system

Sun SSA 100 RAID storage

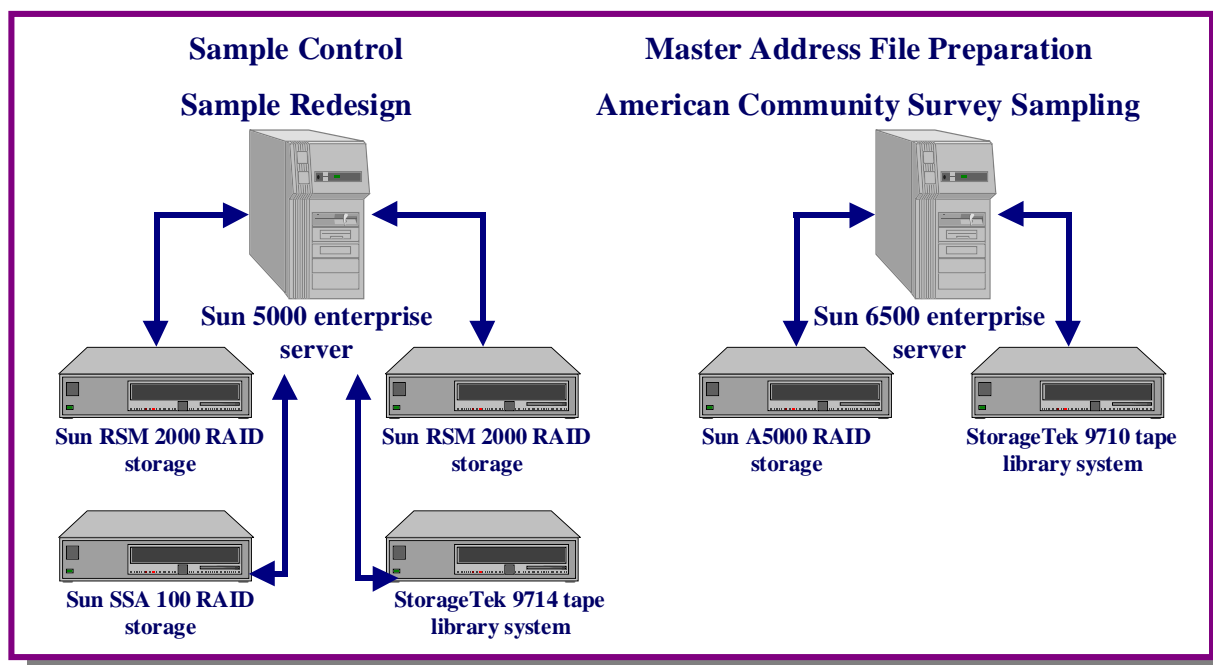**StorageTek 9714 tape library system**

Figure 1: Demographic Statistical Methods Division UNIX servers

Demographic Surveys Division: our processing environment consists of small to mid-sized Sun servers distributed over four subnetworks. These servers run the Sun Solaris operating system.

The main production network consists of a series of servers currently located at Headquarters; these machines are being relocated to the Bowie Computer Center. The machines are dedicated to particular projects and/or branches and are used primarily for production processing. The Demographic Surveys Division maintains a dedicated backup server running Epoch Backup on this subnet. Figure 4, below, illustrates this subnet.
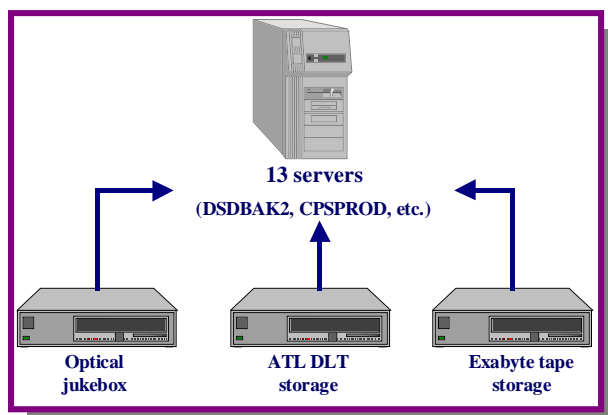

13 servers

(DSDBAK2, CPSPROD, etc.)

Optical   ATL DLT   Exabyte tape
jukebox   storage   storage

Figure 4: First Demographic Survey Division Subnetwork

The second subnet consists of machines also located at Headquarters; these machines are shared between the U.S. Census Bureau and the Bureau of Labor Statistics and are used for analyzing and disseminating Current Population Survey data to U.S. Census Bureau and selected Bureau of Labor Statistics employees. This shared network is isolated from other machines by routers which restrict communication to selected ports; specifically, U.S. Census Bureau users are

prevented from accessing BLS machines from this sub-net, and vice versa. Other UNIX commands, such as 'rsh' and 'rlogin' which allow access to remote machines without passwords, also are disabled by the router. The Demographic Surveys Division maintains a dedicated backup server running Veritas on this subnet. Figure 5, below, illustrates this subnet.
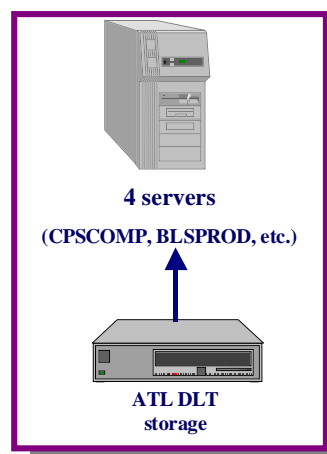

4 servers

(CPSCOMP, BLSPROD, etc.)

ATL DLT
storage

Figure 5: Second Demographic Survey Division Subnetwork

The third subnet consists of machines located in at Headquarters. These machines are used for disseminating Current Population Survey data, Survey of Income and Program Participation data, and other demographic data over the Internet. The Demographic Surveys Division Internet machines are isolated from internal U.S. Census Bureau machines by the Census firewall administered by the ADP Security Branch. Additionally, the Demographic Survey Division has implemented various security measures, such as TCP/Wrappers which allow telnet's and ftp's only from designated sources; the TCP/Wrapper control files are maintained on read-only media to prevent unauthorized or inadvertent modifications. The Division also runs the Tripwire Program
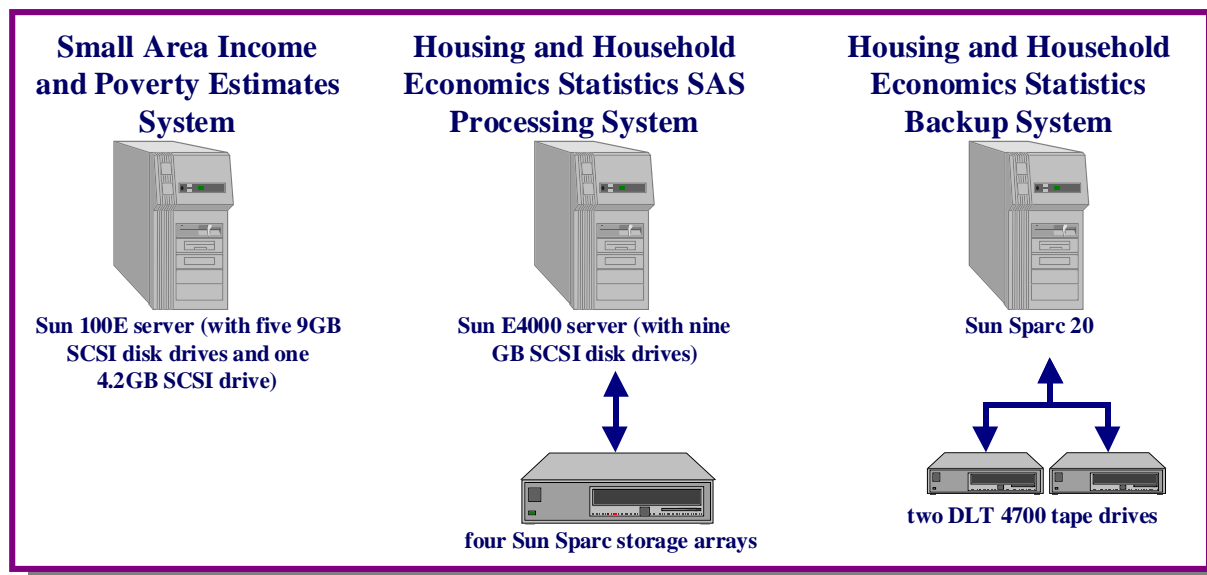
Small Area Income and Poverty Estimates System

Housing and Household Economics Statistics SAS Processing System

Housing and Household Economics Statistics Backup System

Sun 100E server (with five 9GB SCSI disk drives and one 4.2GB SCSI drive)

Sun E4000 server (with nine GB SCSI disk drives)

Sun Sparc 20

four Sun Sparc storage arrays

two DLT 4700 tape drives

Figure 6: Household and Housing Economics Statistics Division servers

Population Division: Population Division's UNIX environment is comprised of two systems: one system located at the Bowie Computer Center and one located at Headquarters. The system located at the Bowie Computer Center is Population Division's production processing system. This system supports our Administrative Records processing and Special Decennial Data requests, serves as a Graphics server running ArcInfo, and is the host for all automatic network backups done nightly on all of Population Division's systems. The second system, located at Headquarters, serves as a combination Network File System server, SAS server, and transaction processing server. Figure 7, below, illustrates these systems.

Bowie Computer Center System

Headquarters System

CD-ROM jukebox

Sun monitor

RAID array drives

Sun monitor

Uninterruptible Power System

Sun 6500 server

Sun E3000 server
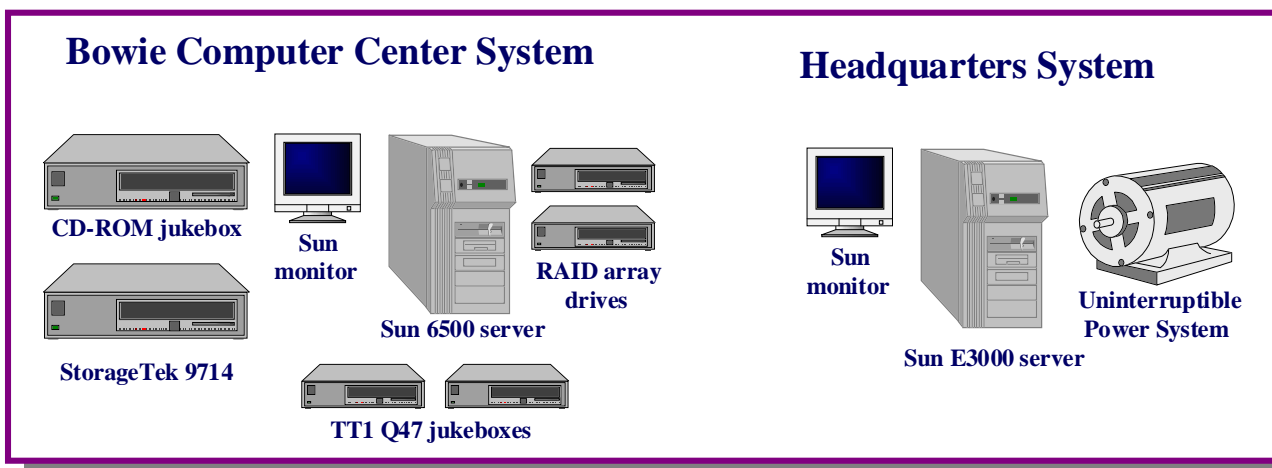
StorageTek 9714

TT1 Q47 jukeboxes

Figure 7: Population Division UNIX systems

We are currently investigating other products, such as Lotus Domino.Docs.

System Management Tools: the Demographic program area, along with the IT Directorate, researched integrated enterprise systems management software products. We concluded that the software was too expensive and too difficult to implement at this time; the negatives far outweighed the potential benefits. We will look at point products (i.e., individual software products) to provide the specific systems management functions we might need, such as performance monitoring, job scheduling, and help desk.

The quality and success of Demographic's work relies on how other program areas within the U.S. Census Bureau use IT. In the following paragraphs, we discuss some of the relationships that our program area has with others.

Field Division Support: the Demographic program area's core business is conducting surveys. Field Division provides the infrastructure and resources necessary to collect the survey information from the survey respondents; this workload is fairly constant over time.

Technologies Management Office (TMO) Support: many of our surveys collect their data through computer-assisted interviewing (CAI) methodologies. TMO supports CAI by developing automated survey data collection instruments and managing the flow of data to and from the field. Our CAI workload is expected to increase over time as more surveys convert to CAI.

National Processing Center Support: they provide mailout, coding, and data keying services for selected surveys. We expect our coding requirements to remain fairly constant, unless we automate our current industry and occupation coding operation. We expect our data keying requirements to remain fairly steady through 2003; after that, we expect a significant decrease, when the Consumer Expenditures Survey plans to convert data collection to Computer-Assisted Interviewing.

Telecommunications Support: we have no special telecommunication requirements other than basic Local- and Wide Area Network infrastructure requirements. We require acceptable telecommunication response times and throughput for our UNIX environments, regardless of the physical location of our resources and staff. We anticipate that:

- **our volume as work, as well as client server type applications, will increase over time;**
- **our staffers will use the Internet more frequently; and**
- **use of the public network will grow as we increase the volume of data available on the Internet.**

We will need to be able to monitor network traffic, both over time and in real-time, to proactively manage our resources.

Geography Division: the Geography Division is responsible for creating and updating the Master Address File. It will be used as the source of addresses for the American Community Survey, as well as the U.S. Census Bureau's demographic surveys (2000 Sample Redesign).

2.1 Demographic Program Area IT System Descriptions

2.1.1 Unisys Mainframe

We are moving all work off of the Unisys to a decentralized, distributed UNIX environment. While we are doing this as fast as possible, we will still need the Unisys to read input tapes that we receive from some states for the National Prisoner Statistics Program. The data will then be transferred to the UNIX environment where they can be processed. The Demographic program area also maintains thousands of files in Unisys proprietary format on old tape media. These files will need to be converted to an open format on newer media.

The following demographic reimbursable survey systems are currently running on the Unisys mainframe. However, these systems are being retired or modified/replaced with a system that will run in the UNIX environment in the second half of FY 1999.

- **American Housing Survey;**
- **Consumer Expenditure Quarterly Interview Survey;**
- **National Crime Victimization Survey (Quarterly Processing); and**
- **Survey of Market Absorption.**

2.1.2 DEC VAX/VMS Minicomputers

The DEC computing environment is used on a limited basis in the Demographic program area. The following run on the DEC VAX/VMS minicomputers:

Automated Re-interview System: this system selects and assigns re-interview cases for Quality Control, Supplemental Re-interview, and Response Error Re-interview.

Demographic Reimbursable Surveys:
- **Current Expenditure Quarterly Interview Survey:** this subsystem uses the DEC as a staging area for files transferred between the National Processing Center, via the Technologies Management Office, to the Unisys for file generation processing. This requirement will end when the Consumer Expenditure processing system on the Unisys retires in FY 1999.

- **National Crime Victimization Survey:** this subsystem supports the production of annual tabulations for this survey.

New Construction System: this system provides building permit housing segments to update the sampling frame for most demographic surveys with housing built since the 1990 Census.

Table Image Processing System (TIPS) Publication Table Processing: although survey file and table generation processing is now performed in the UNIX environment for most of our programs, table publication production requiring the TIPS software remains on the DEC because TIPS does not run in the Sun UNIX environment. Currently, two surveys require TIPS: the Current Population Survey March Supplement and the American Housing Survey. We will seek a UNIX-based replacement product for TIPS in the near future.

vides a more timely and comprehensive means of including geographic updates into the estimates base.

Longitudinal Household-Employer Dynamics Pilot Project: in FY 1998, we purchased and installed a Compaq Alphaserver 8400 system to provide the required data processing resources. This pilot project is in the prototype stage and will be evaluated in FY 2001 to determine if, and in what form, this project will continue.

Sample Control: this system controls the identification of the sample cases and Field sampling materials for all Demographic surveys. It provides listing assignments, all sample addresses, and re-interview cases for each demographic survey to the Technologies Management Office's Master Control System. It uses an Oracle relational database.

Sample Redesign (2000-Based Sample Redesign): this is in the early stages of research and development. It will provide support for selecting new samples for all demographic surveys based on the Census 2000 data. Inputs will include Geography Division's Master Address File and the Decennial Census files, including the 100

percent sample and summary data files. These input files will be matched, stratified, and sampled to get addresses and to assign survey and control codes.

This system will store the sample control files for all demographic surveys in one relational database, allowing for easy cross-referencing and adjustments of the survey samples. It will help standardize data products across surveys and provide more information about samples through ad hoc queries and analysis.

Survey of Income and Program Participation: a budget initiative has been submitted to improve the measure of poverty. This measure would be developed through the Survey of Income and Program Participation rather than the Current Population Survey March Supplement. This initiative, however, requires no significant new IT investments and therefore is not included in Appendix A.

Survey of Program Dynamics: this system supports the file generation processing requirements of this survey. Computing resources are in place; technology refreshment is scheduled for FY 2001.

Demographic Program Area Milestones, FY 99					
	Estimated		Actual		
Description	Start Date	Finish Date	Start Date	Finish Date	Progress to Date
Housing and Household Economic Statistics Division: Migrate March Supplement production processing to UNIX	10/98	09/99	01/98		On schedule; TIPS pub tables will remain on DEC until a UNIX replacement product is determined.
Current Population Survey Modernization					
Lifecycle replacement of development UNIX server	04/99	07/99			On schedule.
Demographic Reimbursable Surveys					
American Housing Survey: Complete Unisys processing	N/A	12/99			File generation completed; miscellaneous backlogged work not scheduled due to sponsor priorities.
Survey of Market Absorption: Migrate sampling system and variances to UNIX	09/98	04/99			Delayed due to higher priority work.
Survey of Market Absorption: Migrate file generation processing to UNIX	04/98	04/99			Delayed due to higher priority work.
Consumer Expenditure Quarterly Interview Survey: Complete Unisys processing	N/A	04/99		04/99	Completed.
National Crime Victimization Survey: Migrate Unisys processing to UNIX	09/98	09/99			On schedule.
Lifecycle replacement of DSD/SSPB Production UNIX server	04/99	07/99			On schedule.
Sample Redesign					
Rdb to Oracle conversion for 1990 Sample Database and Materials	10/97	09/99		03/99	Completed.
1990 New Construction System conversion/migration from VAX/VMS to UNIX	06/99	09/02			Cancelled; will stay on VAX until 2006
Re-interview conversion/migration from VAX/VMS to UNIX	06/99	09/01			Cancelled; will stay on VAX until 2006.

Demographic Program Area Milestones, FY 01

Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Demographic Surveys Division Computer Systems Support					
Lifecycle replacement of UNIX NFS server	04/01	07/01			
Survey of Income and Program Participation					
Demographic Survey Division: Lifecycle replacement of Internal data access server	04/01	07/01			
Current Population Survey					
Housing and Household Economic Statistics Division: Migrate March Supplement analytical processing to UNIX	01/99	12/00			On schedule.
Demographic Survey Division: Lifecycle replacement of UNIX production server	04/01	07/01			
Demographic Survey Division: Lifecycle replacement of UNIX Internet server #1	04/01	07/01			
Demographic Reimbursable Surveys					
Lifecycle replacement of DSD/HSPB Internet UNIX server	04/01	07/01			
Survey of Program Dynamics					
Lifecycle replacement of UNIX server	04/01	07/01			

Demographic Program Area Milestones, FY 02

Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Demographic Surveys Division Computer Systems Support					
Lifecycle replacement of Digital Linear Tape library #1	04/02	07/02			
Survey of Income and Program Participation					
Demographic Surveys Division: Lifecycle replacement of UNIX production server	04/02	07/02			
Current Population Survey					
Housing and Household Economic Statistics Division: Lifecycle replacement of UNIX server used for division work, including March Current Population Survey	10/01	01/02			

2.3 Demographic Program Area Performance Measures

Last year's Operational IT Plan presented business-related, versus IT-related, performance measures for the Demographic program area; we have modified our original performance measures to make them IT-related.

Demographic Program Area Performance Measures			
Performance Goals	**Performance Measures**	**Target Performance**	**Current Performance**
Gauge user's satisfaction with UNIX service and support	Customer satisfaction	80% of respondents satisfied with overall UNIX support	Baseline survey to be conducted in summer 1999
Monitor server availability	Server uptime	95% prime time	99.6%
Increase data files available in FERRET	New data files available	6 new files per quarter	6 files per quarter

2.4 Demographic Program Area Risks

Unisys

The risks associated with the Unisys mainframe system are:

- **there is only one Unisys mainframe. No backup system is available in case of failure or disaster;**
- **inability to move off the Unisys as scheduled because of sponsors' changing priorities and requirements; and**
- **inability to convert Unisys tapes because of lack of programming resources and higher priority work.**

DEC VAX/VMS

The risk associated with the DEC VAX/VMS system is that if the DEC Demographic Interactive Survey Analytical Resource fails, it would be difficult to transfer work to the other U.S. Census Bureau's DEC VAX/VMS systems because they have different hardware/software configurations.

UNIX

One risk associated with the UNIX systems is obtaining qualified software developers and support staff. We must recruit, hire, and retain competent programmers and UNIX support personnel. This has proven difficult in the current competitive labor market because we cannot compete in salary and benefits with private industry. Lack of qualified staff will affect our ability to meet project schedules and make needed improvements in systems and support.

Another risk is contracted hardware and software maintenance vendors performance. If any contractor fails to successfully repair a hardware or software problem that disables or disrupts the system, the application systems could face serious delays delivering data products.

Another risk is security of systems on the public network. Systems on the Internet have no confidential data on them, but hackers could try to disable these systems,

3.0 Demographic Program Area Infrastructure

PCs and Novell Local Area Networks (LANs) are used primarily for office automation activities and are an integral resource in supporting our survey programs. In addition, however, there are many critical uses not related to office automation. Population Division's International area uses PCs extensively for its production processing and there are several PC-based applications crit-ical to their survey processing. An increasing share of the analysis and review work in Population Division's Domestic area and in the Housing and Household Economic Statistics Division is also migrating toward PC SAS residing on a NetWare 4.11 server.

The Demographic Directorate manages and supports its own PCs and LANs. Currently, each division in the Directorate has its own LAN resources. The Demographic Direct-orate, however, decided to consolidate LAN

support to improve service, interoperability within the Directorate, and contingency planning. As the first steps, the program area consolidated staff, management, and support for the entire Directorate within the Demographic Surveys Division, and standardized on the desktop operating system, PC vendor, and PC configurations. The next steps will be the following:

- **consolidating LAN servers;**
- **implementing a central help desk system;**
- **implementing a file backup system;**
- **standardizing on software products, where possible; and**
- **standardizing the desktop interface.**

Figures 8 and 9, on the following pages, show the current and future office automation and Local Area Network infrastructures.
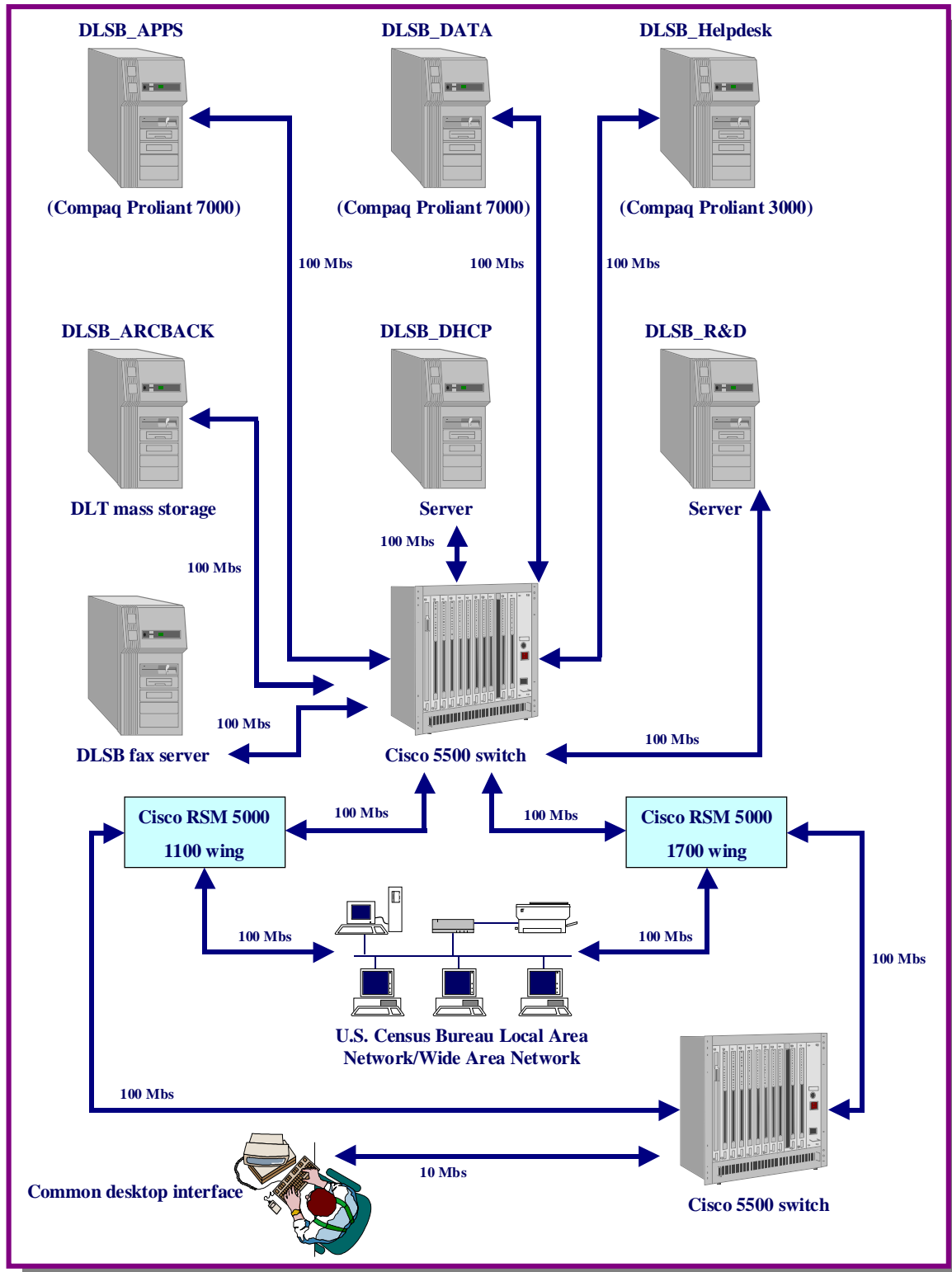
DLSB_APPS

DLSB_DATA

DLSB_Helpdesk

(Compaq Proliant 7000)

(Compaq Proliant 7000)

(Compaq Proliant 3000)

100 Mbs   100 Mbs   100 Mbs

DLSB_ARCBACK

DLSB_DHCP

DLSB_R&D

DLT mass storage

Server

Server

100 Mbs

100 Mbs

100 Mbs

DLSB fax server

Cisco 5500 switch

100 Mbs

100 Mbs

| Cisco RSM 5000 | | Cisco RSM 5000 |
| 1100 wing | 100 Mbs   100 Mbs | 1700 wing |

100 Mbs

100 Mbs   100 Mbs

100 Mbs

U.S. Census Bureau Local Area Network/Wide Area Network

100 Mbs

Common desktop interface

10 Mbs

Cisco 5500 switch

Figure 9: Future Demographic Office Automation/Local Area Network Infrastructure

Demographic Program Area Infrastructure Milestones, FY 99

Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Implement Novell server file backup system	02/99	04/99		04/99	Completed.
Deploy MS Office 97 directorate-wide	03/99	06/99		06/99	Completed.
Implement Remedy help desk system	02/99	09/99			On schedule.
Migrate directorate to Lotus Notes mail	06/99	09/99			On schedule.

Demographic Program Area Infrastructure Milestones, FY 00

Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Consolidate directorate OA file servers	03/99	03/00			On schedule.
Purchase and install web server	01/00	04/00			

Demographic Program Area Infrastructure Milestones, FY 01

Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Lifecycle replacement of Novel apps server	01/01	04/01			
Lifecycle replacement of Novel helpdesk server	01/01	04/01			
Lifecycle replacement of Novel file backup server	01/01	04/01			
Lifecycle replacement of Novel R&D server	01/01	04/01			

Demographic Program Area Infrastructure Milestones, FY 02

Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Lifecycle replacement of directorate OA servers	01/02	04/02			
Lifecycle replacement of Novell contingency server	01/02	04/02			
Lifecycle replacement of Novell Methods Panel server	01/02	04/02			
Lifecycle replacement of tape library	01/02	04/02			

Another risk is the loss of the computer environment due to a catastrophic event. Although file servers are clustered in secure computer rooms, a catastrophic event could disable many servers.

The last risk is the Local Area Network (LAN). The risks associated with LANs and PC systems are primarily found with file servers on the LAN. Failure of the server could lead to a loss of production.

3.5 Demographic Program Area Infrastructure References

The Demographic program area infrastructure is supported by the following planning documents:

- **Budget Submission for FY 2001, dated June 1999;**
- **1999 Strategic IT Plan, dated December 18, 1998, pages 64-68 and 94;**
- *Enterprise Printer Resources*, **Requirement Initiative PRMAP9701, approved May 13, 1998;**
- *UNIX Resources for Welfare Reform Program*, **Requirement Initiative DM01-9601, approved September 30, 1996; and**
- *Enterprise Personal Computer Management and Acquisition Plan*, **Requirement Initiative PCMAP9601, approved December 5, 1995.**